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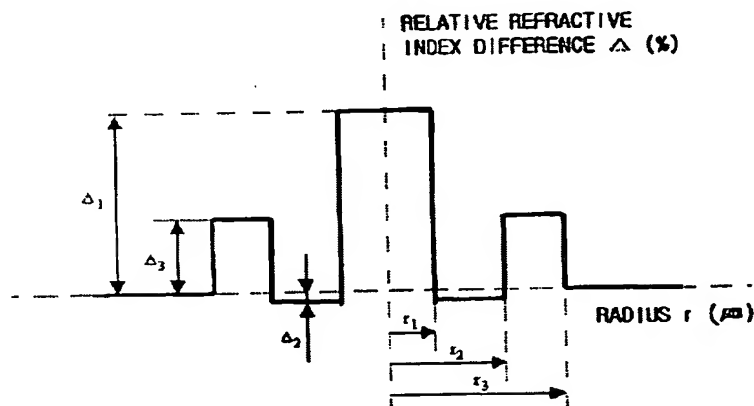
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- (71) Applicant (for all designated States except US): LG CABLE LTD. [KR/KR]; 19-20F ASEM Tower, 159 Samsung-dong, Gangnam-gu, Seoul 135-090 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): PARK, Hye-Young [KR/KR]; 19-16 Namsan-dong 2-ga, Jung-gu, Seoul 100-042 (KR). MOON, Joon-Ho [KR/KR]; 102-905 Woorim Apt., Taeon-eup, Hwasong-si, Gyeonggi-do 445-970 (KR).
- (74) Agents: LEE, Sang-Yong et al.; 4F, Byukcheon Bldg., 1597-5, Seocho-dong, Seocho-gu, Seoul 137-876 (KR).
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(54) Title: OPTICAL FIBER SUITABLE FOR HIGH-SPEED LARGE-SCALE WDM SYSTEM, OPTICAL TRANSMISSION LINE AND OPTICAL TRANSMISSION SYSTEM USING THE SAME



(57) Abstract: Disclosed is a single-mode optical fiber suitable for and optical transmission line used in WDM (Wavelength Division Multiplexing) system, which has low dispersion slope, sufficient dispersion value and large effective section area over S-, C- and L- band (1460~1625nm) to enable high-speed, large-capacity signal transmission. The optical fiber uses the wavelength region from 1460 to 1625nm, and the optical fiber also has a dispersion value of 0.1~3.0ps/nm-km, more preferably 0.3~2.4ps/nm-km, at 1460nm, a dispersion value of 3.0~5.5ps/nm-km, more preferably 3.2~5.2ps/nm-km, at 1550nm, and a dispersion value of 4.5~8.0ps/nm-km, more preferably 4.8~7.7ps/nm-km, at 1625nm. In addition, the optical fiber has a dispersion slope of 0.023~0.05ps/nm-km<sup>2</sup> at 1550nm, an effective sectional area of 35~50μm<sup>2</sup> at 1550nm, an effective section area of 35~50μm<sup>2</sup> at 1460nm. Thus, though the signal is transmitted through S-, C- and L- band, this optical fiber may suppress nonlinear phenomenon and signal distortion to the minimum.